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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,303	10/06/2004	Josephus Arnoldus Henricus Maria Kahlma	NL 020326	6528

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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BRIARCLIFF MANOR, NY 10510

EXAMINER

JEANGLAUDE, JEAN BRUNER

ART UNIT PAPER NUMBER

2819

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/510,303

Applicant(s)

KAHLMA, JOSEPHUS ARNOLDUS  
HENRICUS MARI

Examiner

Jean B. Jeanglaude

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-13 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3-16-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Detailed Action

Drawings

The boxes in figs. 1, 4, 8, 10 should be labeled as disclosed in the specification.

Claim Objection

1. Claim 1 is objected to because of the following informalities: it is suggested to insert a "period" at the end of claim 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 7, 9 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada (US Patent Number 4,520,346) in view of Coene (US Patent Number 6,486,804 and PG Pub 2001/0040518)
4. Regarding claim 1, Shimada discloses a method (abstract; figs. 1 – 14) for generating a channel code with DC control comprising the steps of converting a stream P n-bit input words into a stream of P m-bit code words (abstract); converting the stream of P m-bit code words into an output stream of P m-bit output words using a NRZI converter (abstract) characterized in that the method comprises the steps of a running digital sum of the output stream of output words (abstract; col. 4. lines 33 – 42; col. 6, lines. 7 – 15; paragraph bridging col. 8 and 9). Shimada does not specifically disclose a method wherein in response to the running sum replacing a sequence of Q m-bit code

words, by a replacement sequence of  $Q$   $m$ -bit replacement code words, the replacement sequence being equally long and having different parity than the sequence of code words it replaces and never occurring in a stream of  $m$ -bit code words when converting any stream of  $n$ -bit input words into  $m$ -bit code words. However, Coene discloses a method (figs. 1 – 12) wherein the method replaces a sequence of  $Q$   $m$ -bit code words in response to a DSV, by a replacement sequence of  $Q$   $m$ -bit replacement code words, the replacement sequence being equally long and having different parity than the sequence of code words it replaces and never occurring in a stream of  $m$ -bit code words when converting any stream of  $n$ -bit input words into  $m$ -bit code words (abstract; col. 1, lines 12 – 25; col. 2, lines 1 – 26; col. 10, line 48 to col. 11, line 38). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shimada's system with that of Coene in order to convert a stream of data bits of a binary information signal into a stream of data bits of a constrained binary channel signal wherein the stream of data bits of the binary information signal is divided into  $n$ -bit information words.

5. Regarding claim 2, Shimada discloses a method (figs. 1- 14) characterized in that the method is employed after a method of DC control (col. 2, lines 8 – 16).

6. Regarding claim 3, Shimada discloses a method (figs. 1 – 14) characterized in that each method determines the running digital sum taking into consideration effects of the other method in the running digital sum (col. 2, lines 16 – 26).

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7. Regarding claim 4, Shimada discloses a method (figs. 1- 14) characterized in that converting a stream of P n-bit words into a stream of P m-bit code words is achieved with a parity preserving coder (abstract; col. 4, lines 33 – 42).

8. Regarding claim 6, Shimada discloses a method (figs. 1 – 14) characterized in that a code constraint of the channel code is preserved (abstract).

9. Regarding claim 7, Shimada discloses a method (figs. 1 – 14) characterized in that a 17PP coder conversion from n-bit input words into a stream of m-bit words (abstract).

10. Regarding claim 9, Shimada discloses a method (figs. 1 – 14) that is used a coding device (figs. 1 – 12).

11. Regarding claim 11, Shimada discloses a signal (abstract) comprising a stream of code word (figs. 1 – 14).

12. Regarding claims 10, 12, 13, Shimada discloses all the limitations as discussed above but does not explicitly disclose a method wherein a recording device comprises a coding device (claim 10); a record carrier (abstract) comprising a signal (claim 12); a reading device for reading a record carrier (claim 13). However, in the same field of endeavor, discloses a method (figs. 1 – 12) wherein a recording device comprises a coding device (figs. 1 – 12); a record carrier (abstract) comprising a signal (fig. 11) and a reading device (abstract) for reading a record carrier (fig. 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shimada's system with that of Coene in order to convert a stream of data bits of a binary information signal into a stream of data bits of constrained binary channel

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signal wherein the stream of data bits of the binary information signal is divided into n-bit information words.

13. Regarding claim 5 both Shimada and Coene do not explicitly disclose a method that is characterized in that  $Q$  is equal or larger than 4. However, the combination of Shimada and Coene would achieve the same end result as the claimed invention and an artisan in the art would have considered the above assumption in the method of practice to assure that the method or system performs well. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that Shimada and Coene's system would perform equally well as the claimed invention.

#### Allowable Subject Matter

14. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Reasons for allowing the above claim will be provided in the next office action.

#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Jeanglaude whose telephone number is 571-272-1804. The examiner can normally be reached on Monday - Friday 7:30 A. M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jean Bruner Jeanglaude  
Primary Examiner  
June 19, 2005